

CLAIMS

P-2596-US

What is claimed is:

1. A method for in-place memory management in a Digital Signal Processing (DSP) architecture performing a Fast Fourier Transformation (FFT) upon a sequence of N data points, said sequence numbered from 0 to N-1, the method comprising:

storing each of said data points numbered from 0 to $(N/2)-1$ in a first memory space X and each of said data points numbered $N/2$ to N-1 in a second memory space Y;

for each FFT stage 0 data point grouping comprising a first data point of said data points in said first memory space X and a corresponding second data point of said data points in said second memory space Y:

determining the parity of a data point memory index corresponding to said first and second data points;

storing, if said parity is of a first parity value, the results of an FFT operation upon said first data point at the memory address in said first memory space X from which said first data point was fetched and the result of an FFT operation upon said second data point at the memory address in said second memory space Y from which said second data point was fetched; and

storing, if said parity is of a second parity value, the results of an FFT operation upon said first data point at the memory address in said second memory space Y from which said second data point was fetched and the result of an FFT operation upon said second data point at the memory address in said first memory space X from which said first data point was fetched.

2. A method according to claim 1 and further comprising:

for any FFT stage Z subsequent to stage 0 and each FFT stage Z data point grouping comprising a first data point in said first memory space X and a corresponding second data point in

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a3*

~~said second memory space Y, storing the results of an FFT operation upon said first data point at the memory address in said first memory space X from which said first data point was fetched and the results of an FFT operation upon said second data point at the memory address in said second memory space Y from which said second data point was fetched.~~

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B1*